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ABSTRACT

This paper examines the relationship between age, ability, achievement, and learner preferences, and student evaluations of instructor effectiveness. The sample for this study consisted of 116 students enrolled in two sections of an introductory psychology course at the University of Southern Maine. Five independent variables were examined: age, ability, grade, grade point average (GPA), and learner preferences. Findings indicate a significant but modest relationship between some student characteristics and their evaluations of teacher effectiveness. It appeared that certain learner preferences are predictive of more positive evaluations of instructor performance. Appended are 16 references, four tables of constructive and regressive variables, an end-of-course evaluation form, and a copy of the Johnson Learner Preference Scale. (SI)

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A STUDY OF THE RELATIONSHIP BETWEEN STUDENT LEARNING STYLES AND STUDENT EVALUATION OF INSTRUCTOR EFFECTIVENESS

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INTRODUCTION

For many years reseachers have been examining the relationships between various student characteristics and student evaluations of college instruction. However, many of the findings have been mixed, and in some cases inconsistent. For example, Seibert (1979) found that students gave the highest course evaluations to those instructors from whom they learned the most, and Schuner (1985) found that students who had improved the most rated the course and instructor higher than those who had not. Additionally, Canter and Melsals (1971), Mueller and Miller (1970), and Schuh and Crivelli (1973) found positive associations between grades and course evaluations. On the other hand, Bendiz (1953) and Rodin and Rodin (1972) found a negative relationship between ratings and student learning, and Palmer (1978) found that leniency or non-leniency of grades had no impact on course evaluations. Marsh and Cooper (1980) found that students' prior interest in course content was more important than expected grade in predicting instructor ratings.

Thus, the research findings at present do not provide a clear picture of the relationships between student characteristics and evaluation of instructor effectiveness. Accordingly, the purpose of this study was to examine further these relationships. More specifically, the purpose was to examine the relationships between age, ability, achievement and learner preferences, and student evaluations of instructor effectiveness.

METHODOLOGY

Sample

The sample for this study consisted of 116 students enrolled in two sections of an introductory Psychology course. The average age of the sample was 21.5 years (S.D. = 7.4). There were 67 females and 32 males in the sample. Seventeen students did not report their gender. One section of the course was taught over an instructional television system[1] (N=54), and the second section was taught in a traditional classroom setting (N=62). The same instructor taught both sections.

Student ratings were collected using an end of course evaluation questionnaire developed by the Testing and Assessment Center, University of Southern Maine. The questionnaire, which was administered during the last week of classes, consisted of 26 Likert-type items related to two areas: (1) instructor effectiveness and (2) the value of the course. Items related to the first area included instructor preparation, instructor presentations, sequence and clarity of course topics and materials, instructor respect for students, and an overall rating of the instructor. With respect to the value of the course, items included organization of the course, pace at which materials were covered, timely return of assignments, papers and exams, grading system, student skills developed, and an overall rating of the course. Only the items related to instructor

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[1] The instructional television system consists of multiple studio and remote sites. Using a combination of microwave signals, fiber optic cabling, and local cable television systems, live instruction is broadcast from a studio classroom to three remote site classrooms. A two way audio and video system allows interaction between instructors and students at all sites.

effectiveness were used for analysis purposes. For these items, a six-point response scale was used. The responses ranged from strongly disagree to strongly agree. Scores were summed and divided by the number of items to reflect a mean score for student evaluation of instructor effectiveness. A copy of the questionnaire appears in Appendix A.

Five independent variables were examined. Table 1 presents a detailed description of variable construction. Following is a brief description of each.

Insert Table 1 here

Age. Student age was included in this study. Research has shown that older non-traditional students are often more outcomes-oriented, practical and pragmatic, and are more conscious of the competence instructors display than are younger students. This variable was hypothesized to have a positive effect on the dependent variable.

Ability. The SATV score (Scholastic Aptitude Test-Verbal) was used in this study as a proxy for intelligence. Vocabulary is the strongest single correlate of intelligence (Sternburg, 1984). It was hypothesized that ability would positively influence student evaluations of teacher effectiveness.

Grade. End of course grade was used as a measure of achievement. This variable was included in the analysis to determine the extent to which grade relates to student evaluation.

GPA. Student accumulative GPA was used as a measure of achievement as well to determine the relation between overall grade point average and student evaluations.

Learner Preferences. The Johnson Learner Preference Scale (JLPS)[2] was used to identify student learner preference. The JLPS is a 48 item Likert-type self-reporting scale designed to measure six learner preference dimensions which assess preferences for teaching-learning modes, academic self-confidence, and sources of academic motivation. Scores may range from 8-48 for each of the six preferences with high scores indicating strong preferences. The six learner preferences identified by the scale are: Enthusiastic learner, Grade Conscious learner, Collaborative learner, Confident learner, Reticent learner, and Structured learner. (See Appendix B for descriptions of scale items) Because learner preference may impact upon the amount one learns, it was hypothesized that students with various learner preferences may evaluate the instructor differently.

RESULTS

Table 2 reports the means and standard deviations for the independent and dependent variables. The data indicate that for the samples used in this study, there was considerable variation in ability, age, grade and the six learner preferences, but little variation in GPA and the dependent variable, student evaluation of instructor effectiveness.

Insert Table 2 here

[2] The Johnson Learner Preference Scale (Johnson, J.L., 1987) was developed and designed to identify learner preferences of college level students. For more information about the scale, including validity and reliability information, the author may be contacted.

Simple correlations were computed for all variables to determine which of the independent variables were most strongly correlated with the dependent variable. The variable found to be significantly correlated with student evaluations of instructor effectiveness were grade conscious learner preference ($r = .2561$; $p > .05$), end of course grade ($r = .2155$; $p > .05$), and structured learner preference ($r = .2008$; $p > .05$). Although statistically significant at the .05 level, the correlation coefficients are modest at best.

Insert Table 3 here

Finally, the data were analyzed using stepwise multiple regression techniques to ascertain the extent to which each independent variable had an influence on the dependent variable. Table 4 displays multiple Rs, beta weights, and related statistics for the stepwise multiple regression analysis.

Insert Table 4 here

It appears that the grade conscious learner preference had the highest relationship with student evaluation of instructor effectiveness ($\beta = .256$); that is, students who scored high on this learner preference gave the highest marks to the instructor. Consistent with earlier studies, (Schuner, 1985; Canter and Melsals, 1971; Mueller and Miller, 1970; and

Schuh and Carvelli , 1973), end of course grade had the second highest relation to the dependent variable (β = .209).

Interestingly, GPA (β = -.351) and ability (β = -.209) had inverse relations to student evaluations, indicating that students with lower GPA's and ability tended to give higher ratings to the instructor. One possible explanation might be that higher achieving students are more critical of the performance or perceived effectiveness of the instructor; that is, their educational needs may not have been met as adequately as their average or lower achieving counterparts.

As expected and consistent with earlier studies (Keller and Switzer, 1983), age also had an inverse relation with the dependent variable (β = -.228). Is this because older non-traditional students are more self motivated and eager to learn despite the effectiveness or ineffectiveness of the instructor? Put another way, older students may expect less from the instructor in order to learn and therefore will rate him/her satisfactorily barring total incompetency. In addition, the findings show that the structured learner preference group were more positive in their evaluation of the instructor as well. Finally, the R^2 of .285 indicates that about 29% of the variance in student evaluation is accounted for by the combination of the five variables studied here.

DISCUSSION

In conclusion, the findings of this study indicate a significant but modest relationship between some student characteristics and their evaluation of instructor effectiveness. Also, it appears that certain learner preferences are predictive of more positive evaluations of instructor performance.

However, it is important to recognize that the findings of this study may be limited by the make up of the sample. More specifically, students tended, on the whole, to have strong preferences for certain types of learning styles. In addition, there was very little variation in the way these students rated the instructor. This study is further limited in that although the two groups of students included in the sample were enrolled in two sections of the same course, taught by the same instructor, the medium through which the courses were taught was different. What is the impact of one on the other in terms of using the two classes as one sample, and hence, analyzing the data as a unit?

Additional research is needed using different instructors and perhaps more diversified groups of students. Also, perhaps reanalysis of the data using this sample as two separate groups may produce different results.

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TABLE 1

CONSTRUCTION OF VARIABLES

MODEL VARIABLE	SUM	COMPONENT COMPOSITE	SUM	SIMPLE VARIABLE
AGE				AGE
ABILITY		SAT SCORE		SAT (Verbal) SCORE
LEARNER		JOHNSON LEARNER PREFERENCE SCALE (See Appendix B for detailed description of items)	SUM SUBSCALE SCORES	ENTHUSIASTIC: Q4, Q12, Q18, Q26, Q27, Q38, Q40, Q43 GRADE CONSCIOUS: Q13, Q15, Q20, Q22, Q30, Q46, Q47, Q48 COLLABORATIVE: Q7, Q14, Q16, Q17, Q24, Q33, Q34, Q39 CONFIDENT: Q6, Q8, Q19, Q23, Q28, Q32, Q35, Q45 RETICENT: Q1, Q2, Q3, Q10, Q29, Q29, Q31, Q36, Q41 STRUCTURED: Q5, Q9, Q11, Q21, Q25, Q37, Q42, Q44
GRADE				END OF COURSE GRADE
GPA				ACCUMULATIVE G.P.A.
STUDENT EVALUATION OF TEACHER EFFECTIVENESS		END OF COURSE EVALUATION (See Appendix A for items)	SUM & DIVIDE BY 8	Q64, Q65, Q67, Q68, Q71, Q73, Q75, Q76

TABLE 2

REGRESSION VARIABLES: MEANS AND STANDARD DEVIATIONS

VARIABLE	$\bar{X}$	S.D.
STUDENT EVALUATION OF INSTRUCTOR EFFECTIVENESS	5.02	.76
ABILITY	414.27	72.86
AGE	18.69	2.18
GRADE	2.03	1.19
GPA	2.20	.78
ENTHUSIASTIC LEARNER	35.22	5.14
GRADE CONSCIOUS LEARNER	35.97	5.89
COLLABORATIVE LEARNER	31.53	4.91
CONFIDENT LEARNER	32.85	5.11
RETICENT LEARNER	26.53	6.04
STRUCTURED LEARNER	31.53	4.52

TABLE 3

REGRESSION VARIABLES: CORRELATION COEFFICIENTS

VARIABLE	1	2	3	4	5	6	7	8	9	10	11
1. STUDENT EVALUATION OF INSTRUCTOR EFFECTIVENESS	1.000										
2. ABILITY (SATV)	-.1878	1.000									
3. AGE	-.1691	-.1015	1.000								
4. GRADE	.2155*	.3651*	.1859	1.000							
5. GPA	-.0765	.4496*	.1166	.6484*	1.000						
6. ENTHUSIASTIC LEARNER	-.0428	.1058	.1153	- .1681	- .1054	1.000					
7. GRADE CONSCIOUS LEARNER	.2561*	-.1193	- .2365*	- .0241	- .0409	- .0928	1.000				
8. COLLABORATIVE LEARNER	.0159	-.2181*	.0364	- .2683*	- .1772	.2952*	.1688	1.000			
9. CONFIDENT LEARNER	-.0201	.2551*	.0294	.0760	.0817	.4956	.1287	.3301*	1.000		
10. RETICENT LEARNER	-.0780	-.0740	- .2084*	- .0536	- .0749	- .5165*	- .0478	- .3369*	- .5159*	1.000	
11. STRUCTURED LEARNER	.2008 *	-.2107*	.0789	- .2035*	- .2850*	.1001	.3656*	.0659	.0196	.1059	1.000

* P > .05

TABLE 4

MULTIPLE REGRESSION ANALYSIS
(Stepwise)

For Student Evaluation of Instructor Effectiveness

Step	Variable	R	Beta	F for Beta	P
1	Grade-conscious Learner	.256	.256	4.633	.0350
2	Grade	.331	.209	3.994	.0231
3	G.P.A.	.425	-.351	4.692	.0050
4	Ability	.463	-.209	4.292	.0039
5	Age	.509	-.228	4.326	.0019
6	Structured Learner	.534	.188	4.052	.0018

$r^2 = .285$

Appendix A

END OF COURSE EVALUATION

COURSE EVALUATION FORM (Fall 1988)

Course No._____ Section No._____

Social Security No._____ Sex ___F ___M
(last 4 digits)

Age _____ Year in School _____

Classroom Site
Portland ___
Gorham ___
Saco ___
Sanford ___
Other ___

Are you a major in the department offering this course? ____Yes ____No

Why did you take this course? ____ Required ____ Interest Only

Expected grade in this course? ___A ___B ___C ___D ___F ___P/F

	Strongly Disagree	Moderately Disagree	Mildly Disagree	Mildly Agree	Moderately Agree	Strongly Agree
1. The instructor was well prepared for class.	1	2	3	4	5	6
2. The instructor explained the course objectives in a clear and understandable fashion.	1	2	3	4	5	6
3. The class presentations were logically related to each other.	1	2	3	4	5	6
4. The instructor was open to the viewpoints of others.	1	2	3	4	5	6
5. The instructor presented ideas and theories in a clear and understandable fashion.	1	2	3	4	5	6
6. I had ample opportunity to ask questions during classtime.	1	2	3	4	5	6
7. Course topics and materials followed a meaningful sequence.	1	2	3	4	5	6
8. The instructor showed respect for the questions and opinions of the students.	1	2	3	4	5	6
9. The visual and instructional aids used in this course were useful in helping me understand the course material.	1	2	3	4	5	6
10. The instructor's lectures were clear and understandable.	1	2	3	4	5	6

	Strongly Disagree	Moderately Disagree	Mildly Disagree	Mildly Agree	Moderately Agree	Strongly Agree
11. I was satisfied with the amount of individual contact I had with the instructor.	1	2	3	4	5	6
12. The instructor presented the course materials in an orderly and logical fashion.	1	2	3	4	5	6
13. Overall, I would rate the instructor as being a very effective teacher.	1	2	3	4	5	6
14. Course expectations were clearly explained to me.						
15. The course was well organized.	1	2	3	4	5	6
16. Class meetings were profitable and worth attending.	1	2	3	4	5	6
17. There was ample opportunity in this course to work with other students in the class.	1	2	3	4	5	6
18. I developed significant skills as a result of taking this course.	1	2	3	4	5	6
19. The pace at which the material in this course was covered was about right for me.	1	2	3	4	5	6
20. The presentations of the course material was as good as I have found in other courses I have taken at USM.	1	2	3	4	5	6
21. In this course, I would have preferred more activities that involved working with my classmates.	1	2	3	4	5	6
22. The instructor clearly explained what he expected on exams and assignments.	1	2	3	4	5	6
23. The exams covered important aspects of the course.	1	2	3	4	5	6
24. My papers, exams and assignments were returned in a timely fashion.	1	2	3	4	5	6
25. The grading system was fair.	1	2	3	4	5	6
26. Overall, I would rate this course as an excellent one.	1	2	3	4	5	6

Thank you for your assistance

Appendix B

JOHNSON LEARNER PREFERENCE SCALE

Enthusiastic:	Q4	Reasons for attending college
	Q12	Want to learn
	Q18	Learn for personal benefit
	Q26	Eager to learn
	Q27	Find classroom activities of interest
	Q38	Course selection
	Q40	Course material
	Q43	Develop new skills
Grade Conscious:	Q13	Accomplishment
	Q15	Concern about good grades
	Q20	Compare self to others
	Q22	Grades on exams
	Q30	Good grades reward
	Q46	Course performance important
	Q47	Course/classmate comparison
	Q48	Need to learn
Collaborative:	Q7	Pursue own interests
	Q14	Class discussion
	Q16	Group projects
	Q17	Ideas
	Q24	Work in groups
	Q33	Process and schedule
	Q34	Group study
	Q39	Group work

Confident:	Q6	Create ways to accomplish goals
	Q8	Confident in my abilities
	Q19	Achieve academic goals
	Q23	Time management
	Q28	Confident about success
	Q32	Confident about exams
	Q35	Determine content issues
	Q45	Maintain good grades
Reticent:	Q1	Ask for explanation
	Q2	Rather listen than participate
	Q3	Do not like to share ideas
	Q10	Study to get by
	Q29	Do not understand
	Q31	Do not participate
	Q36	Ask questions of instructor privately
	Q41	Sit where I'm not noticed
Structured:	Q5	Structured classes
	Q9	Lecture
	Q11	Course structure
	Q21	Organization in classes
	Q25	Instructor judges what is important
	Q37	Dependent on instructor
	Q42	No independent inquiry
	Q44	Like highly organized classes